

**Microteach 2 Lesson Plan – Indirect Teach SAMPLE - Elementary**  
**(Revised May 2013)**

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**Name:**

**Grade Level:** 2<sup>nd</sup>

**Subject:** Elementary Science

**Unit Title:** Measurement

**Lesson Title:** How Cool Are You?

**Estimated Time:** 30 minutes

**Next Generation Sunshine State Standard:**

SC.2.P.8.1: Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.

**Learning Goal:**

Second grade students will be able to use a thermometer to accurately read temperature in degrees Fahrenheit within 5 degrees of accuracy.

**Essential/Guiding Question(s):** (Student-friendly language)

What do you sometimes do to tell whether or not something is hot or cold?

**Content:**

- Thermometer is used to measure temperature
- How to read a thermometer
- How to use a thermometer
- Who uses a thermometer?
  - scientist
  - weatherman
  - chef

**Key Vocabulary:** temperature, thermometer, weatherman, scientist, Fahrenheit, degrees

**Procedures:**

**Engage:**

Begin the lesson by showing students images of a boiling pot of water on a stove, a building on fire, a desert and a volcano. Have written on a dry erase board the words “Hot” and “Cold.” Point to “Hot” and dramatize sweating. Point to “Cold” and dramatize shivering. Pointing to each word, ask the students which word comes to mind after seeing the pictures of a boiling pot of water, a building on fire, a desert, and a volcano (hot). **(ESOL STRATEGY: DRAMATIZATION.)**

Then show them an image of an iced drink, an iceberg and a freezer door opened up. Then ask them what comes to mind when they see those images. (cold) **(CONVERGENT)**

Ask the students how they would know if the objects were hot or cold. **(DIVERGENT)**

If students suggest using your senses to tell if it is cold, bring up an image of people swimming in icy water.

### **Explore:**

Split the class into groups of 5 and hand out 3 cups of water

(numbered 1-3) to each group.

#1 warm cup

#2 cold cup

#3 room temperature cup

Ask the class if they think any of the cups are cold, room temperature, or hot. **(DIVERGENT)** Walk around the room and solicit reasoning behind their answers. The idea during this time is to have students question their definitions between hot and cold. If the students tell you something is cold, touch the water and tell them that it doesn't feel cold to them. Also ask if anyone thinks differently, and encourage the students to discuss with each other what they think. **(DIVERGENT)**

### **Explanation:**

Hand out work sheet #1 to students and instruct them to complete it individually. The worksheet instructs students to describe the temperature of cups 1-3 in their own words, and why they would describe it that way.

After the worksheet has been completed, ask the students to share with the class what their descriptions are, and finally what scientific instrument could they use to determine the temperature accurately. (thermometer) **(CONVERGENT)**

If students have difficulty coming to the conclusion what they need to tell the temperature, ask questions such as:

What would a scientist use to tell how hot water is? **(CONVERGENT)**

What does the weatherman use to tell how hot or cold it is outside?

Demonstrate how to use a thermometer and read the results.

### **Elaborate:**

Give each group a thermometer and hand out worksheet #2 to the students. The work sheet asks them to list the temperature of each cup (in degrees Fahrenheit), to give one example of how a scientist could use a thermometer, and how you can use a thermometer at home.

Share an example of how they think they can use a thermometer at home (when cooking food), and how a scientist could use a thermometer (to measure the temperature of lava).

Invite students to share their findings with the class.

Ask the students in this phase if they still think the cups are hot or cold.

**Assessment/Evaluation:**

When given three cups of water of varying temperature and a thermometer, the second grade student will correctly measure in Fahrenheit the temperature of each cup within 5 degrees of accuracy.

**Materials/Resources:**

4 Thermometers, 12 Cups (4 labeled "1". 4 labeled "2". 4 labeled "3"), Worksheet #1, Worksheet #2

**References:** <http://www.ncpublicschools.org/docs/acre/standards/new-standards/social-studies/k-2.pdf>

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**Accommodations:** Dramatization was used to demonstrate how one feels when one is hot and one is cold. Since many gestures are universal (the same across cultures), they would add context to which the EL student can refer in order to comprehension the input that is given in textual (word) form.